

## Switchmode Full Plastic Dual Schottky Barrier Power Rectifiers

Using the Schottky Barrier principle with a Refractory metal capable of high temperature operation metal. The proprietary barrier technology allows for reliable operation up to 175 °C junction temperature. Typical application are in switching Mode Power Supplies such as adaptors, DC/DC converters, free-wheeling and polarity protection diodes.

### Features

- \* Low Forward Voltage.
- \* Low Switching noise.
- \* High Current Capacity
- \* Guarantee Reverse Avalanche.
- \* Guard-Ring for Stress Protection.
- \* Low Power Loss & High efficiency.
- \* 175 °C Operating Junction Temperature
- \* Low Stored Charge Majority Carrier Conduction.
- \* Plastic Material used Carries Underwriters Laboratory

### Mechanical Data

- \* Case :JEDEC ITO-220AB molded plastic body
- \* Terminals: Plated lead, solderable per MIL-STD-750, Method 2026
- \* Polarity: As marked
- \* Mounting Torque: 5 in-lbs. Max.
- \* Weight:1.7 g approx.
- \* ESD: 4KV(Min.) Human-Body Model
- \* *In compliance with EU RoHs 2002/95/EC directives*

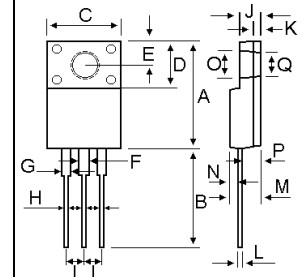


### SCHOTTKY BARRIER RECTIFIERS

**20 AMPERES  
100 VOLTS**



ITO-220AB



DIM	MILLIMETERS	
	MIN	MAX
A	15.05	15.15
B	13.35	13.45
C	10.00	10.10
D	6.55	6.65
E	2.65	2.75
F	1.55	1.65
G	1.15	1.25
H	0.55	0.65
I	2.50	2.60
J	3.00	3.20
K	1.10	1.20
L	0.55	0.65
M	4.40	4.60
N	1.15	1.25
P	2.65	2.75
O	3.35	3.45
Q	3.15	3.25

### MAXIMUM RATINGS

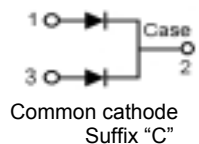
Characteristic	Symbol	MBRF20100CL	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	100	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_R$		
RMS Reverse Voltage	$V_{R(RMS)}$	70	V
Average Rectifier Forward Current	$I_{F(AV)}$	10	A
Total Device (Rated $V_R$ , $T_C=125$ )		20	
Peak Repetitive Forward Current	$I_{FM}$	20	A
(Rate $V_R$ , Square Wave, 20kHz)			
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfware, single phase, 60Hz)	$I_{FSM}$	150	A
Operating and Storage Junction Temperature Range	$T_J, T_{STG}$	-65 to +175	

### THERMAL RESISTANCES

Typical Thermal Resistance junction to case	$R_{\theta jc}$	3.4	/w
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### ELECTRIAL CHARACTERISTICS

Characteristic	Symbol	Min	Typ.	Max.	Unit
Maximum Instantaneous Forward Voltage ( $I_F=0.1$ Amp $T_C=25$ ) ( $I_F=1.0$ Amp $T_C=25$ ) ( $I_F=2.5$ Amp $T_C=25$ ) ( $I_F=5.0$ Amp $T_C=25$ ) ( $I_F=10$ Amp $T_C=25$ )	$V_F$	--	0.29	0.32	V
		--	0.38	0.41	
		--	0.42	0.45	
		--	0.60	0.64	
		--	0.78	0.85	
Maximum Instantaneous Reverse Current ( Rated DC Voltage, $T_C=25$ ) ( Rated DC Voltage, $T_C=125$ )	$I_R$	--	0.05	0.1	mA
		--	15	30	



# MBRF20100CL

FIG-1 FORWARD CURRENT DERATING CURVE

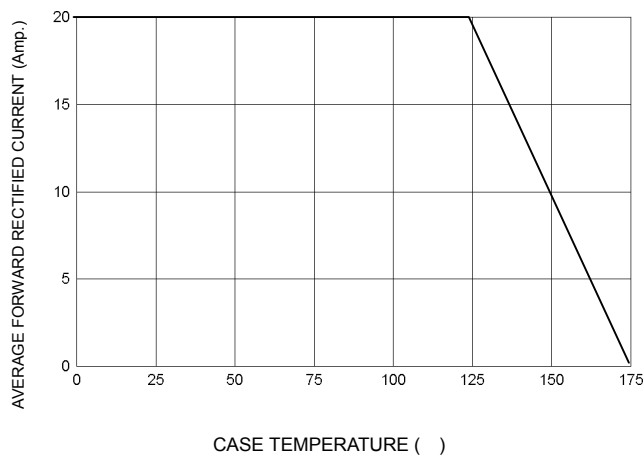


FIG-2 TYPICAL FORWARD CHARACTERISTICS

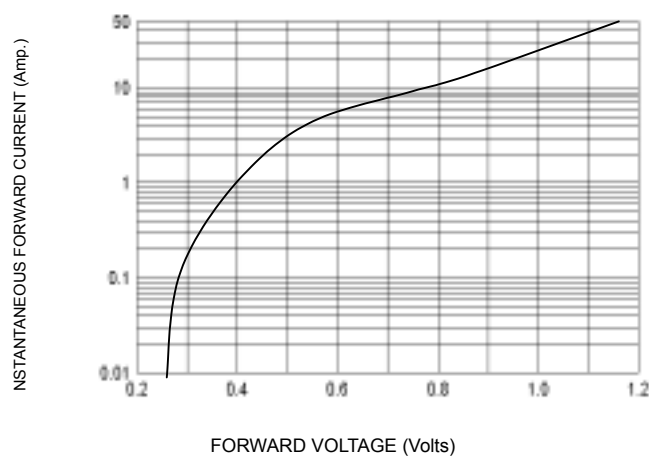


FIG-3 TYPICAL REVERSE CHARACTERISTICS

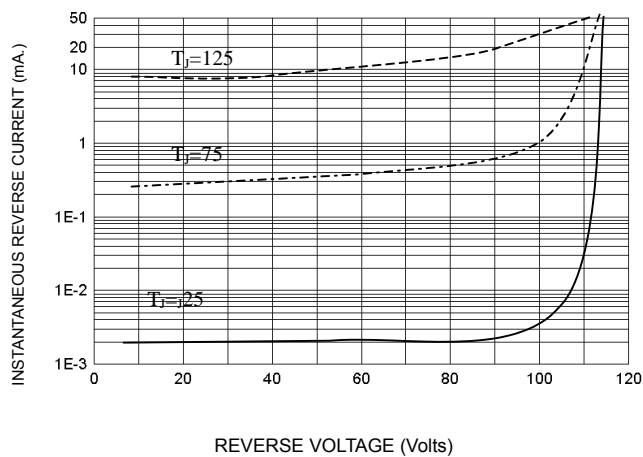


FIG-4 TYPICAL JUNCTION CAPACITANCE

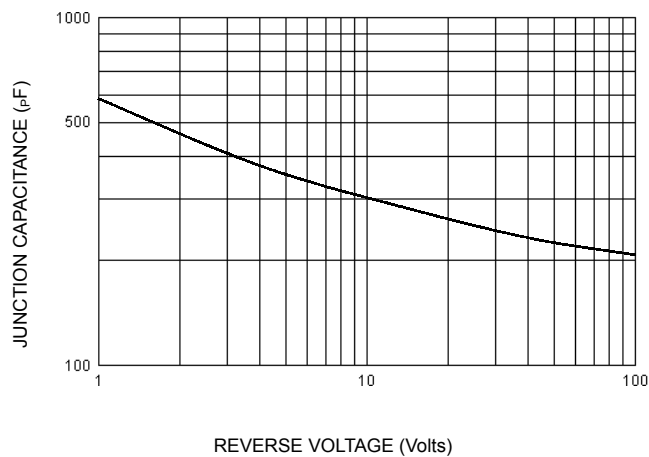


FIG-5 PEAK FORWARD SURGE CURRENT

